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Applied Trophology, Volume 20, No. 3

“Cholesterol and Health”

> *“We fear things in proportion to our ignorance of them”*
>
> —Livy

In Health Matters Ignorance Is Not Bliss

The phrase “You are what you eat” is generally accredited to Hippocrates, the father of medicine, way back when food and physic comprised practically the physician’s entire knowledge of medicine and healing. Having abandoned qualitative food in the prevention of disease, orthodox medicine has now wholeheartedly embraced physic (medicine) as the healing agent. Webster reveals: “A physician is a person skilled in physic or the art of healing; a doctor of medicine—often distinguished from a surgeon.” Having practically abolished the prevention of disease through a better knowledge of nourishing food he presently aspires to become a healer or a restorer of health. Apparently, he has chosen the wrong course.

Experience has taught us, in all walks of life, that it is easier to prevent destruction than it is to restore a wreck. From the study of physiology we learn the metabolic fact: “You are not only what you eat, but what you do with what you eat.” Yet the average American is eating more chemicalized foods of doubtful nutritional value. Our standard of quality has been subverted through false or misguided allegiance to the consumer. Distorted fats often lead to malnutrition. Modern nutritionists stress: “What you don’t eat could be the lost nutritives that you need to keep you healthy.”

Metabolism surely must be the balancing factor in individual health. Each of us has physical characteristics different from another. So, too, nutritional requirements and/or deficiencies may be different from everyone else, which indicates that metabolism is a very complex series of individual biological processes. This, no doubt, is the reason that a certain drug, antibiotic, serum or hormone, in every individual with a like complaint, just doesn’t seem to be the answer. We reiterate that antibiotics can contribute to malnutrition, scientists have found, by causing the loss of friendly intestinal bacteria that aid in the assimilation of several vitamins, including the vitamin B complex and vitamin K.

Nutritional therapy has always been with us, but chemotherapy is a “Johnny come lately,” with instances of harm and with possibly too little proof of its value in conditions such as cancer. Side effects may occur with any type of treatment. Therefore, each individual patient must be considered in regard to the now applied benefit-risk factor. Up to now, cancer treatments have been of little value, possibly because the patient did not have the reserve energy furnished by good nutrition to aid in overcoming the resulting side effects. It is the opinion of Dr. William D. Kelley, a nutritional consultant, that “85 percent of malignancy or cancer is caused by poor diet and a wrong diet.”

Proper metabolism cannot be affected when a wrong diet has become habitual. Poor diets and wrong diets, through ignorance of a healthy dietary, are passed on from mother to daughter, family to family and generation to generation. The new son-in-law may contribute by insisting on a particular food or meal, “like Mother used to make.” Now his “mom,” like many more these days, may not have been too well informed in proper dietary and/or in the culinary art. So, the leading induced deficiency diseases—heart and vascular conditions, cancer, diabetes and arthritis—may be passed on through ignorance, rather than being solely hereditary as often times suggested by medical consultants.

Poor education continually furthers the sequence since the teachers in modern secondary schools generally provide only commercially regulated dietary information, in order to continue in the good graces of their schoolboard who may favor the junk food vending machines as a source of revenue. Therefore, the errors of commission and omission perpetuate themselves from one generation to another with dire national health consequences.

Nutritional Consciousness Needed

Recently, at a “Forum for Progress” D. Eugene Sibery, executive vice-president of Blue Cross, stated: “If fewer people were sick, health care costs would not rise so fast.” This certainly is a very astute observation, which calls to mind that until recently we were said to be ‘‘the healthiest nation in the world.’’

At this same meeting an interesting observation was made by Rick Carlson, lawyer and nutritionist, and a senior professional associate with the Institute of Medicine: “Medicine is a very limited art…it can’t do everything we want it to do.” Or, as Dr. A confided to Dr. B, “It’s very distressing, doctor, to realize we will always be practicing.”

Dr. Carlson was also reported to say (something that hasn’t happened since specialization replaced the family doctor) that instead of dealing only with a specific ailment, out of context with the patient’s environment, the physician should treat the entire person through consideration of the physical, emotional, intellectual, and spiritual aspects. As author of *The End of Medicine*, in 1975, he criticized the American medical care delivery system for failing to deliver health, although noting there is much of the present medical system that should be preserved. He proclaimed the high costs of medical care, stating that today one dollar of every eleven dollars of consumer expenditures goes for some form of health expense, but there seems little evidence that the level of health has improved as a result. He reasons that this is because our medical system is still geared to the health problems of 1900 when infectious diseases were the problem. “Modern medicine,” he said, “still relies on research and methods to attack a germ or virus instead of other factors of present-day living.”

For instance, he cites the fact that present research shows 90 percent of all cancers are environmentally induced through such agents as radiation, industrial pollution, food additives and chemicals. As do we, he believes that to look at health as the “absence of disease” is backwards. “We can define in exquisite detail the phases of disease,” he said, “and yet we really don’t know much about wellness. We don’t know why some people are so healthy or so energetic or so well adjusted.” He agreed with the Blue Cross executive that self-care could cut medical costs and urged *new emphasis on good nutrition and proper physical conditioning*. For health’s sake nutritional consciousness must be developed by the consumer.

Scare Tactics and Questionable Acts

In the past several years human suffering through deficiency may have been created by derogatory reference, insinuation, or deprecatory allusion to cholesterol. Industry, with the backing of some physicians, in and out of government, has inferred that ingesting cholesterol is unhealthy and that only their specifically named brand of fats could control serum cholesterol and inferentially hypertension. They have conjured up visions of atherosclerosis and hypertension leading to heart conditions. Your IQ in nutrition is tested with loaded questions and answers.

Some nutritionists believe that a national commercial cholesterol confusion has been inspired by the food processing industry, not only to sell their processed substitute products but to lower the commercial value of centuries-old proven nutritional products, presumably to attain a fat and oil monopoly. The so-called informative advertising has often been considered to be misleading, through indirect action, tone, or intent. However, they do admit that their synthesized product has been made to “look, smell, and taste” like the genuine article, although they have shied away from saying it is just as nutritious. It is very important to remember that refined or processed fats and oils cannot be just as nutritious, as hydrogenation especially causes a loss of some necessary modifiers for complete metabolism. In some instances this poor mobilization of fat has been known to cause fatty tumors in older persons or overstimulated growth in young people.

In an early experiment Dr. Ancel Keys found that eggs fried in hydrogenated vegetable oil caused a rapid rise in blood cholesterol, whereas those fried in fresh unrefined oil did not have this effect. However, the fact is that the unrefined oils, butter, lard, and eggs have failed to cause excess cholesterol over the thousands of years of use in nutrition. Thus we find the conglomerate food industry, in order to push their cheaper spreads and compounds, turning the facts around to reap a greater profit. As Rodney Leonard of the Community Nutrition Institute has said: “Everything we’ve ever known is coming into question…big companies have absolutely no concern with the consumer aspect of food.”

The Reapers

Apparently, as part of a master plan, the processed food industry has taken advantage of the lack of interest of the big medical combine (AMA). Dr. Roger Williams has this to say about nutritional confusion: “We can readily trace this back to the apathy, if not antagonism, exhibited by classical medical education toward human nutrition.”

Also, after World War II, fats and oils were monopolized and apparently became a common denominator for world farm prices. Marshall Plan funds (taxpayers’ money) were supplied to the United States industry to plant palm oil plants in Africa and coconut groves in the South Pacific. Our military forces were involved in the planting, we are told. The oil from the fruits of these palm trees has reportedly been imported for making soap, although coconut oil has been an ingredient in oleomargarine since its inception. But the high content of oleic acid in coconut oil does not allow liquefaction until about 23°C, a sales handicap when compared with butter, a saturated-unsaturated fat that readily liquefies at body temperature. As palm oil became available it was added to cut down on the oleic acid content, and the prefix “oleo” was dropped. However, the cheapest stick-type spreads still contain little palm oil.

Coconut oil is made from a 30 percent to 40 percent extraction of dried whole coconut meat, known as copra. It is dried in the sun, and as it dries it takes on the green color of corroded copper. When ships are unloaded it is piled up on the dock similar to coal piles. There it is exposed to the weather, pollution, and in all probability rancidity.

Apparently since the African wars have negated that source of palm oil, margarine is being made with soy oil. This, too, is a monetary boon, as the palm oil source allowed the industry to hold down the price of soybeans for several years. When their protest and removal of farm subsidies were found insufficient to knock out the competing dairy industry, *they raised the wolf cry of cholesterol* and hired the best advertising firms in the country to promote it.

It now becomes apparent that this procedure had a purpose. By switching human consumption to cheaper fats and oils, the competing animal fats, butter, lard, and tallow would be in less demand and become available to them at a low price. This gave them another lever to force many New York and Wisconsin dairy farmers out of business and to overcome the small dairy businesses that depended on them. It is interesting to note that the margarine and soap manufacturers have now acquired a good share of the old established dairy and dairy products companies in this country and now have them selling margarine and their imitation coffee cream. They have literally followed the old adage, “If you can’t lick them, join them.” And we must add, “Have a monopoly and make a fortune.” All this is at the expense of the ill-informed consumer nutritionally, physically, and financially.

Cholesterol Not the Bad Guy Pictured

In fact, cholesterol is the good guy every animal and human needs. Since the advent of enzyme-inhibiting chemicals in the past fifty-five years, the metabolism of cholesterol has apparently been very much impaired. First of all, it is not a fat but a steroid alcohol. Also it is very important in the formation of bile and is linked with blood, lymph, hormones, fat-soluble vitamins, and especially with the cell membranes and nerve tissue. In the skin, cholesterol gives rise to an intermediate substance that is apparently activated by ultraviolet rays in sunlight to form vitamin D (cholecalciferol).

The importance of cholesterol metabolism is emphasized further when we consider that some fifty biologically active steroids have been isolated from the adrenal cortex, including glucocorticoids, mineralocorticoids, androgens, and estrogens. Cholesterol serves as a precursor of these sterols, which latter groups if not inhibited are normally converted to hormones by the adrenal glands and the gonads. Modern physiologists know that cholesterol can be synthesized by all body tissues, with the possible exception of the adult brain. Apparently, the problem is *lack of cholesterol metabolism* rather than, as they tell us on TV, too much cholesterol.

Advantage has been taken of the fact that this higher alcohol resembles fat in both physical and chemical properties and that as a steroid it is linked with lipoproteins that transport fat throughout the body. If not chemically inhibited it may appear in the plasma in a free form or combined with fatty acids as a cholesterol ester. Normally it combines with either saturated or unsaturated fatty acids at body temperature. In many instances cholesterol may fail to combine with the newer unnatural hydrogenated or homogenized fats and oils.

Nutritionists believe that any value the polyunsaturated oils have may be dissipated through improper storage, filtering, or overheating in processing, all of which could contribute to changing them to *saturated fats*. Could it be that all the money now spent for advertising, in this instance, is promoting a substitute product whose promoters themselves claim is not good for you? Clinicians have forgotten the fact that the enzyme cholesterol esterase, found both in the liver and serum, must be present to catalyze the esterification of cholesterol. The inhibition of this enzyme may cause vascular or heart conditions, and some of the involved inhibiting chemicals have been found carcinogenic. We consumers must seek greater protection from suffering and an early death. As Dr. Morris Pollard declared in *Geriatrics*: “The character of nutrition throughout life is the principal environmental factor determining longevity.”

Further Metabolic Interference

Butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT), often used as anti-rancidity agents, are now used in most processed fats and oils, dry cereals, sausages, bacon, ham, corned beef, and dried beef. In 1971 English and Norwegian researchers found that when they combined with an amino acid they formed nitrosamine, a known carcinogenic agent. At that time baby food manufacturers discontinued their use and tests were instituted in this country. Recently BHT was found to affect the weight and enzyme content in the liver and also to cause allergic reactions in people. A test on mice reveals it may cause lung and ovarian tumors. Monosodium glutamate (MSG) has also been banned in baby foods in this country because it was found to produce brain and eye damage in infant rats.

Much more information is needed on the one we mention next, ethylenediaminetetraacetic acid (EDTA), which reportedly prevents rancidity and off taste by forming chemically inactive complexes with minerals in the foods to which it is added. If its use were concentrated only on unwanted minerals such as cadmium, lead, and mercury it would be a big asset, but when it interferes with the needed minerals such as calcium, phosphorus, zinc, magnesium, and others that combine with protein to form enzymes, it is a detriment. EDTA could also interfere with liver action in the process of creating cholesterol from acetic acid. It is presently added to beer and soda, crab meat, margarine, pecan pie filling, sandwich spreads, and shrimp.

Now that soap making has been superseded by detergents, most waste fats and oils are being used in animal foods. In gathering this waste material from restaurants and fast-food establishments, too little regard is paid as to the rancidity or possibly other spoilage involved. EDTA is used to cover the bad taste, but rancidity in fats and oils is a tough carcinogenic agent that will not be overcome. So now we have pets and other domestic animals subjected to tumors. Who tests for rancidity as a protective safeguard for the general populace? It must be a secret.

Other Factors Involved

According to unbiased scientific studies the postulated theory of increase of serum cholesterol due to ingestion of so-called animal fats has practically become untenable. The biased commercial scientists failed to recognize systemic balance and the possible deficient food factors involved. For instance, fat and oil processing has been noted to cause the loss of the fat-soluble vitamins A, E, D and K, vitamin C, some of the B complex vitamins (notably B6 and B12), and other assimilative B factors such as choline, inositol and lecithin.

Dr. Boris Sokoloff advised that vitamin C deficiency resulted in lipoprotein lipase decreases, which in turn can yield high serum triglycerides and then atherosclerosis. Other losses encountered are the minerals calcium, magnesium, and iodine, and to some extent the very important unsaturated fatty acids, arachidonic, linolenic, and linoleic.

In this regard Dr. Paul Owren, an investigator from the University of Oslo, advises: “An increased tendency to thrombosis and coronary heart disease may be directly related to a relative deficiency of linolenic acid.” He does not agree with investigators who state that the polyunsaturated fats of corn oil, cottonseed oil, safflower oil, and soy oil can prevent heart attacks when substituted for animal fats in the diet.

Other adverse factors affecting serum cholesterol could be lack of sunshine, lack of sane exercise, and the drinking of soft water.

Longevity

Contrary to TV ballyhoo, cholesterol lengthens life rather than shortens it. Dr. Teh C. Huang of the Timken Mercy Hospital, Canton, Ohio, who researched saturated fats and cholesterol for fifteen years, reportedly found that rats fed a diet containing bulk saturated fats and cholesterol lived longest, while rats fed unsaturates with cholesterol had the shortest lifespan. He stated:

> “A *trace of cholesterol* in the 10 percent saturated diet *seems to be essential to the normality of growth, longevity and especially resistance to infection*…but *evidence has accumulated to show that unsaturated fat causes more cancer in humans and animals and that low blood cholesterol is a fatal syndrome in many human diseases*.”

He also said:

> “The beneficial effects of cholesterol supplement to saturated fat were more significant in the males than in the females…the blood cholesterol level in man increases after the fourth decade, whereas that of woman increases continuously. A supplement of cholesterol to men may prolong their lives, allowing them to live as long as women.”

He further stated:

> “*There is no proof that low cholesterol in the blood would prolong life expectancy, nor any proof that diet saturated fat or cholesterol showed any relationship with cholesterolemia or coronary disease*.”

R.M. Jones et al. of the University of Chicago Department of Pathology reported:

> “*Rhesus monkeys fed 25 percent corn oil (polyunsaturated fatty acids), without cholesterol, showed some areas of disorganization of myointernal cells and some areas of basement membrane reduplication in the aorta*. Rats fed diets containing 10 percent palmitic, oleic, linoleic acids or 10 percent corn oil for three weeks showed no change in serum cholesterol. *However, corn oil, the recommended source of polyunsaturated fatty acids, elevated liver cholesterol levels*.”

Dr. Mark Altschule, a former Clinical Professor of Medicine at Harvard, has reported:

> “*The first thing that clinicians notice is that restriction of intake of cholesterol-containing foods has little effect on the serum cholesterol level*…In any case a diet high in unsaturated fats does little for the total cholesterol in the body. It was shown some years ago in rabbits that *these diets merely redistribute the body cholesterol*; recent studies in man have revealed the same phenomenon. There seems to be little solid data to support the suggested marked revisions of our customary diet implied in the rigid substitution of unsaturated for saturated fats and cholesterol. There is no proof that it either helps or harms; both possibilities remain unproved…*In fact the intake of excessive amounts of unsaturated oil may be dangerous*.”

Dr. James M. Iacono, chief of lipid research of our Department of Agriculture, said:

> “A change in diet is not what is needed…At best, the most that man can reduce serum cholesterol by the high intake of polyunsaturated fats is 10 percent.”

Heart specialists Dr. Christiaan Barnard and Dr. Michael DeBakey have opposed the idea that cholesterol should be blamed as the principal cause of atherosclerosis.

In *Food and You* (Barnes and Noble) the author, Dr. Edmund S. Nasset, professor of physiology at Rochester University, said:

> “The elimination of eggs or butter from the diet of a healthy person merely because they contain cholesterol is an extreme measure which can scarcely be justified on the basis of present knowledge.”

In *Nutrition Against Disease*, University of Texas researcher Dr. Roger Williams offers this advice:

> “Concentrate on the quality of the food consumed. Wholesome foods like milk, eggs, fish and fresh vegetables, which are generally endowed with essential nutrients, should take precedence over those processed foods that crowd out good foods, contribute mostly calories and provide very little in the way of amino acids, minerals and vitamins.”

Butter and Eggs

For centuries the human diet was rich with dairy products, eggs, and usually some fatty meat and the oils in nuts and cereal grains. Yet it is only in the latter part of this century that heart and vascular conditions have taken their enormous toll. Also in the past twenty-five or thirty years the use of chemicals in our food has increased to the point where each of us ingests over five pounds per year. Many of them have not been properly tested and many times when they are, they are found to cause cancer. Drugs and industrial chemicals are further complicating the situation.

There are so many factors other than the ones we have listed that could have a bearing on the formation of serum cholesterol, but butter and eggs are not among them. In general they are believed to be deficiencies rather than overages. A recent experiment in Japan had people eating up to a dozen eggs a week with no ill effects. Nature has provided the balancing cholesterol mobilizers for these natural products.

In trying to avoid heart and vascular conditions we seem to be creating the necessary conditions for the increased incidence of cancer. In a recent Gallup poll when the people were asked which was the “worst thing that can happen to you,” fifty-eight percent named cancer. This kind of thinking no doubt prompted this sign on a church bulletin board: “Interested in going to Heaven? Get your flight training here.”

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End of part one. This article continues below.

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“Cholesterol and Health”

(cont.)

> *“Give me the liberty to know, to utter, and to argue freely according to my conscience above all liberties.”*
>
> —John Milton

Still Number One

Heart disease continues to be the most significant cause of death in Finland, the United States, Scotland, and England. In this country, in the late 1950s, one of our leading pathologists, Dr. Russell Holman, found atherosclerosis to be present in every single artery he studied in subjects aged three upward. At that time one in every four American males could expect to die from a heart or vascular condition. Since then the overall death rate has topped one million Americans annually. Interested organizations are bragging of a decline in the annual death rate from this cause, in the recent past, but have failed to notice a continual increase in the cancer death rate. It is doubtful the general public can feel elated over trading one fatal disease for another.

Professional apologists now tell us that we have more of these diseases today because more people live to the susceptible age. It has been statistically determined that as far as middle-aged man is concerned, medicine does not seem to have progressed beyond the mid-nineteenth century. Only if he survives past 47 years can he expect a long life. In the last 100 years, life expectancy is estimated to have increased only three or four years for males.

This seems insignificant when we consider that over this same period of time we have supposedly benefited from such marvelous medical advances as better sanitation, controlled drinking water, modern drugs, antiseptics, anesthetics, surgery, antibiotics, hormones, and lately expensive space-age scanners and hospital monitoring systems. Orthodox medicine has pointed with pride to this “golden age of medicine,” forgetful of the fact that the late heart specialist, Dr. Paul Dudley White, claimed we were going through a “modern American epidemic” of heart disease. Presently, it would appear that, if we can escape such disasters as heart attacks, strokes, and cancer, the “middle-aged major killers,” the average man may expect to live two or three decades longer.

Such a dismal picture is not applicable to countries such as China, Japan, Korea, and France, where diet patterns differ. *Chinese Lessons to Western Medicine*, page 160, says: “The rarity of coronary thrombosis in North China is the more striking because the increase of the frequency of this affection in America and Europe is appalling.”

For instance, in the United States, in young men averaging 22 years of age and dying as a result of accidents, doctors have in 300 autopsies noted atherosclerosis in 77 percent of these young subjects. No wonder deaths from heart and vascular conditions are so high in this country. Apparently, we are feeding disease, not people. “Where health is concerned the obvious is too often overlooked.”

Dr. Richard Mackarness, author and staff member at Prewett Hospital in Hampshire, England, advises patients to eat and to feed their children what he calls a “Stone Age” diet of fresh fruits, nuts, vegetables, eggs, cheese, fish, and meat. Also, he feels that *our modern diet* is harmful as it *lacks the essential basics and consequently does not provide the protein and fats* which are *vital for developing nerves and brain cells*. He further advises that *today’s processed foods do not provide enough vitality to satisfy our bodily needs*. Generally forgotten by specialty food manufacturers and medical specialists as well is that the body is a complete unit, with all parts dependent to complete the whole.

The synthesizing of foods was anathema to the loyalty of our founding pioneer nutritionist, Dr. Royal Lee, who advised investigating Senator Estes Kefauver:

> “Something must be done in spite of the political influence of the billion-dollar food processing industries that would have to die to permit the rest of us to live. Unless we as a nation correct these abuses and criminal activities, we shall cease to exist. Our national enemies will find us so soft and diseased that they can walk in without a fight.”

This prophecy of national destiny stated in 1961 has now been fulfilled to the point where practically one third of our populace is either hospitalized, considered crippled, sick, and/or generally ailing. A 100 percent well person has now become a rarity. We surmise that many doctors, in this country, have never seen one. Most all of us know someone pronounced to be in sound health but who succumbed to a head attack or stroke on the way home from the doctor’s office.

Lost Nutrients

In addition to the doctors just quoted, nutritionists everywhere agree that the refinement of food makes it lose much of its nutritional value. The remaining nutrients may be damaged or may not fit into nature’s complete living picture because they have lost their complex pattern. As so often stated: “Nature, the Master scientist, seems to have done things right in the first place.”

From a nutritional angle and for healthier results, we must respect the many natural biochemical processes of our body. As an example of man’s interference in this respect we cite the loss of nutrients in corn and corn oil as a result of quantity rather than quality production. According to some authorities, hybrid corn does not have vitamin B12 or other cobalt compounds in its germ, whereas ordinary corn grown on the same soil carries definite amounts of cobalt in its ash. Since hybrid corn does not need to form germ tissue to grow offspring, it can put all its energy into producing more oil in the seed and more growth in the stalk. This is only one example of how commercialism cheats on nutrition. Dr. Royal Lee described this: “Made worse so it can be sold for less, and thereby sweep competition from the field.”

We are constantly advised that corn oil and corn oil margarine have little if any cholesterol, but the other lost elements are never mentioned. However, the recently added butter taste (synthetic) is magnified. At this time most corn oil on the market comes from hybrid corn because it produces more fodder per acre for cow feed and more oil, although less nutritious for human consumption. Apparently, we humans have lost our ability to select the most nutritious food, but pigs if given a chance will choose other foods in preference to hybrid corn—and pigs are experts on corn.

A few years ago authorities were sure that cobalt was not an essential part of the human diet, but today they are just as sure we cannot do without it. Although required in remarkably small amounts, it must be in the organic combination now known as vitamin B12. A good source [of B12] and the assimilation of the complete vitamin have been found to be necessary in the prevention of pernicious anemia. Clinicians have observed facilitated absorption if sufficient intrinsic factor is present. Intrinsic factor has been identified as a mucoprotein which binds tightly to vitamin B12, making complete metabolism possible.

Balancing Dietary Fats

Propaganda to the contrary, Dr. Teh C. Huang, who researched saturated fats and cholesterol for 15 years, found that *low serum blood cholesterol can be part of a fatal syndrome in many human diseases*. Other researchers have determined that the intake of excessive amounts of unsaturated oil may be dangerous. So, while elevated serum cholesterol levels are not necessarily a cause of coronary disease, high levels may be an indicator of high risks. But then clinicians also find that large numbers of patients die of coronary heart disease with “normal” cholesterol readings. Of course, this does not imply that fats are not directly involved. The end result of the highly unsaturated fat diet is possibly similar to that of the drugs often used, that is, an unbalance and a mere redistribution of body cholesterol, with little if any effect on the elevated serum blood cholesterol level.

In all bodily functions metabolic balance is the key to good health. Therefore, we must assume that the saturated and unsaturated fats can only promote health when natural and in proper ratio. Scientists now know that interference with the natural unsaturated fats and oils through hydrogenation or homogenization and/or other processing tends to make them more saturated than the animal fats they are supposed to balance.

Rather than a healthy ratio between the saturated and unsaturated fats we are apparently getting a double dose of saturated fats. Surely, this must increase and accelerate the deposition of fats in the arteries and promote atherosclerosis sooner. Ordinarily this is said to be a slow and often lifetime process of clogging up. It is said to begin in most of us soon after birth. And, although the process of clogging up is an important factor, it is now considered secondary to the rapid ability of the wrong dietary fats to cause blood to clot more easily and quicker. As a result the clots may block the blood vessels and result in coronary thrombosis, heart attacks, and clotting in the lungs, all major causes of death.

Research scientists advise that even though the clogging process normally progresses in severity it can be arrested and even reversed by changing the diet to include fresh unadulterated and unprocessed fats and oils to ensure a more equitable balance of unsaturated to saturated fats. Apparently, our ancestors had no trouble in this regard, as the natural fats and oils they consumed contained the necessary assimilating mobilizers such as lecithin, choline, inositol, minerals, amino acids, and fat-soluble vitamins.

Faults of Processed Fats and Oils

The U.S. Department of Agriculture *Technical Bulletin*, 1942, reported the conclusions of Hoagland and Snyder that “synthetic fats (hydrogenated fats) are less digestible than natural.” And, the same year, *Science* (96:542) noted: “The ingestion of synthetic fat causes vitamin K deficiency.” Then too, in Norfolk, Virginia, an enterprising local, Dr. Doles, clinically hypothesized that the introduction of deep-freeze units had caused vitamin K deficiency through overexposure of vegetables to air with subsequent consequences, including increased sudden deaths from coronary disease. Later experiments confirmed Dr. Doles’ study.

Vitamin K was also the subject in *JAMA* (151:590, 1953). This journal of the American Medical Association stated:

> “The practical value of various types of commercial vitamin K has been questioned recently. Water-soluble vitamin K (K3) seems to exert little or no influence on hypothrombinemia induced by bishydroxycoumarin. The natural oil-soluble vitamin K, on the contrary, is capable of acting as an antidote against bishydroxycoumarin.”

Natural vitamin K (K2), originally known as the “Coagulation” vitamin, is now known as the antihemorrhagic vitamin because of this specific action. As a component in the chlorophyll of grasses, plants, and vegetable leaves, natural vitamin K is also known to have anti-infective and healing qualities not found in the synthetic product.

All fats, including vegetable oils, contain varying amounts of saturated fats. And, even though fresh and mostly unsaturated to start with, they may not end up that way. Any heating of the oil in processing may change the ratio of the unsaturated fats (essential fatty acids) to saturated fats. Suggested is the possibility that heating under pressure (hydrogenation) may change the spatial arrangement of the essential fatty acids and molecules to produce substances which are antagonistic to the essential fatty acids present in the margarine and to others taken in as part of the diet.

In the production of oils for baking or deep frying, the so-called nonfat compounds or vegetable shortenings may be solvent extracted from a particular oil source with the possibility of some solvent residues. Another possibility is that the extracted oil may be alkali-refined and/or bleached previous to being deodorized at high temperature, and it may even be steam-distilled, filtered, or whipped. Although it is mostly the heating of the oil in processing that may unbalance the ratio of unsaturated (essential fatty acids) to saturated fats, it is very probable that the many other steps in processing affects the total nutritional content. Nutritionists advocate the least possible heat or processing of food as contributory to better health.

It is true that fresh whole corn oil (not hybrid) has the highest ratio of unsaturated to saturated fats and a rating of 5.3 percent, but when it is hydrogenated the rating drops to 0.6 percent. What a comedown for the so-called cholesterol-free best oil in the business. This would seem to indicate that hydrogenated corn oil margarine may not be any more nutritious than ordinary margarines. It also would appear to be very misleading to imply that hydrogenated oils are unsaturated. For health’s sake such processing needs further thoughtful scrutiny.

Hydrogenation

Hydrogenation is the process used to produce a semisolid or solid fat from an unsaturated vegetable oil. In margarine the lone exception is coconut oil, which is a highly saturated fat to begin with. The unsaturated oil has free bonds that must be filled if the oil is to become solid. The free bonds become filled by hydrogen in the presence of a suitable catalyst such as nickel. The liquid oil is heated under pressure, and hydrogen is bubbled through this hot oil. This causes the hydrogen atoms to combine with the free carbon bonds to produce a saturated oil. Apparently, this process causes the oil to darken and have an odor so it must be bleached and deodorized before being used to produce margarine. Even in the newer soft margarines, part of the oil is totally saturated and then mixed with a certain amount of unsaturated oil.

The heating of the oil in this type of processing destroys the oil-soluble vitamins A, D, E, and K; affects the cholesterol mobilizers lecithin, choline, and inositol; and also disturbs the action of the cholesterol eliminators, the phospholipid group of the unsaturated fatty acids, formerly known as vitamin F. In addition, it is reasonable to conclude that the essential minerals calcium, magnesium, and phosphorus lose their necessary metabolic factors. We can only surmise what the addition of antioxidants, sequestrants, emulsifiers, color, butter flavor, and stabilizers (to produce an acceptable texture) does to the nutritional value of this engineered so-called butter substitute. *While made from a vegetable oil to start with, a synthetic product has been created because the natural oil molecules have been broken and reassembled into new combinations.*

What these new synthetic combinations do for or to the body is questionable since these substances have not been researched and may not even qualify as foods. Several years ago the noted English biochemist Sir William B. Hardy stated: “No synthetic substance has yet been made that could qualify as food.”

Commercially it has been advantageous to persuade the public that all hard fats are saturated and all soft fats and oils are unsaturated. Also that all animal fats (including butter) are saturated and that all vegetable fats (including most margarines) are unsaturated. Because of this postulated theory many people believe that consumption of margarine instead of butter will reduce the intake of saturated fat. However, as stated, hydrogenation and other processing of the ingredients in margarine is known to interfere with the normal body fat emulsion process as well as mineral and vitamin intake and proper nutrient assimilation.

Of the minerals, calcium is probably the most essential in the cell structure of heart and other muscle—if it is in the ionized form for immediate assimilation. The use of high temperatures in food preparation, in the pasteurization of milk, and in the distillation of water deionizes calcium and makes it less assimilable. Heart action and heart valve action depend on nutrient calcium, the phospholipids of the unsaturated fatty acids, linolenic acid, the B complex vitamins, vitamin E, vitamin C, and undoubtedly other normal collaborators. A good nourishing blood supply to the heart is necessary for efficient action.

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Butter vs. Buttery Taste

Fresh butter made from the butterfat of the milk from grazing cows naturally contains the oil-soluble vitamins A, D, E and K. Usually, all are destroyed in the processing of the vegetable oils used in making margarine, nonfat vegetable shortenings, and in some ice creams. All are replaced by synthetic vitamins A and D in exactly the same proportion found in butter. The antihemorrhagic vitamin K and the antioxidant vitamin E are replaced with chemical antioxidants BHA, BHT, and other preservatives.

Nutritionally we do not believe that butter can be replaced by any imitation or substitute product. It doesn't make sense to substitute for a natural product made from the milk of various female animals and proved to be nutritionally valuable for thousands of years. Butter is a naturally balanced saturated-unsaturated soft fat food that liquefies at body temperature and is readily assimilated. It is simply made by separating the butterfat (cream) from whole raw milk, placing it in a churn with sufficient cold water to keep it moving as it is in some way mechanically agitated, until the ruptured fat globules adhere together. The watery milk liquor is poured off and is designated as buttermilk. The butter is then worked with a paddle to remove the excess water. The buttermilk is usually served as a drink so the small amount of calcium, protein, and lactic acid remaining in the liquor is not lost. As no heat was used, the butter contains all the nutritional components of raw milk. Dr. Lee often remarked that the content of vitamin E alone, in butter, was worth the difference in price between butter and the cheaper spreads.

At this time, especially in nutrition, you get less and less for your dollar so it pays to buy nutritionally proved products in order to stay healthy. It is also well to remember that as separate entities cholesterol and fats are vital to life. Any interference with their functions creates a maintenance hazard. Loss of the enzyme cholesterol esterase or the unassimilability of fats, due to processing, tends to increase the risk. As Dr. Weston Price so aptly stated: "Life in all its fullness is Mother Nature obeyed."

On the other hand, disobedience and trying to fool Mother Nature, as the inference in present advertising gimmicks, invites disease.

Coronary Heart Disease (CHD)

According to a 1970 chart stressing CHD deaths per ten thousand people between the ages of 45 and 54, *the degree of food processing and quality of food ingested is an important factor affecting the level of CHD*. Finland is rated first with 403 deaths per ten thousand and the United States second with 346 deaths per ten thousand. Both Finland and this country rate highest in the amount of processed food consumed. France ranked twelfth with 66 deaths, Spain thirteenth with 50 deaths and Japan fourteenth with 34 deaths per ten thousand. The latter three countries still use many natural products in their diet.

Scotland was rated third with 343 deaths per ten thousand, not because of a food problem but *because of the exceptionally soft water very low in calcium*. According to a report in the *Tohoku Journal of Experimental Medicine*, 86, pp. 51, 64, 1965, *calcium deficiency contributed to deformities of the heart and brain and a high mortality rate*. Scientists noted that in Japan and in parts of the United States, *both heart disease and stroke occurred more frequently in soft-water areas*. In this country an increasingly aggravating cause of calcium deficiency everywhere is the installation of water softeners in newer apartments, condominiums, and residences. *Connection should be made to the hot water system only, to prevent demineralization of the drinking water*.

In some instances the saline water softener salt has been found to neutralize the effects of a salt-free diet. It may be necessary to find a source of untreated spring or well water to furnish minerals and unpolluted complete antigens to stimulate the production of antibodies and react with them. Distilled water doesn't furnish anything, while chlorinated and/or fluoridated water could be carcinogenic. As we have supposedly become more civilized our food has progressively become more processed and our drinking water more contaminated with chemicals.

The vitamins in natural food are continually being destroyed and replaced by single synthetic vitamins that fail to complete the natural complex structure of a supportive nutrient. The continual rise in CHD deaths is blamed on excessive cholesterol, never on the loss of cholesterol and fat metabolizers due to processing. With less processed foods during the war years and generally a diet with less sugar, fats, and chemicals, CHD was not a problem. This would indicate that our present dietary is probably at fault. This could be the reason that CHD is now the chief cause of death of people at or below middle age. According to statistics, the trend continues downward to earlier ages. Therefore, it is doubtful that the present glut of oldsters, twenty-three million over age sixty-five, will continue to be a long-time problem. As children these people had more nourishing food to build stronger bodies to meet the present health challenges.

Unless radical changes are made in our present dietary fewer of the present generations will live long enough to become "golden agers." Also contributing to this present unhealthy cycle of the chemical age are polluted air, water, and some basic foods dyed with coal tar dyes and preserved with added chemicals whose long-term effects are generally unknown.

The Threat of Processed Foods

Even without the use of poison bleaches, the oxidation of essential oils and vitamins causes stale flour and other cereal products to be a menace to health. Hogs are generally conceded to be immune to most everything, including venomous snake bite, yet they are susceptible to pneumonia if fed ground cereal grains more than thirty days old. Now that the so-called Legionnaire's disease has been narrowed down to a type of pneumonia, perhaps stale bakery, rancid cooking fat, and/or salad oil could be a contributory factor. With the processed food industry in the saddle it is doubtful that we will ever find out.

Wherever introduced in the world, processed foods have caused the natives to suffer the same afflictions and causes of death to which most of us are subjected. For instance, not long after Arctic explorer Stefansson had introduced processed food products in the Eskimo villages, the inhabitants acquired some of our most prevalent illnesses. Years ago, when Dr. Albert Schweitzer set up his missionary hospital in Central Africa, cancer was unknown there. However, with the importation of processed foods the good doctor had to cope with this ailment. He firmly believed that stale cereal products, including white flour, were an underlying cause.

Now we find the Hunza people in this same category. We have often cited them as being some of the healthiest people in the world. Locked in a hidden fertile valley for probably centuries and living on natural foods and pure cold glacial water, they were active and working when well past the century mark. In late years a road has been cut through the mountains and their valley has become a tourist area.

Now, having adopted the sophisticated food brought in for the tourists, instead of their proven healthy food, many of the aged have become crippled, unable to work, and their lifespan substantially shortened. There are only a few areas in the world where unprocessed food and unpolluted water can now be found. One of these is the Georgian republic of Russia where presently, according to a late report, 19,000 people are healthy and happy although over 100 years of age. In comparison, a late report of our Public Health Service informs us that in the forty-five to fifty-four age bracket, thirty-three persons in every 1,000 have diabetes. The Georgian natives have been taught to have a simple healthy life, while we have been brainwashed to be simple-minded and unhealthy. Apparently, by ingesting more wholesome food we could arrest the incidence of the three leading early death threats, namely, heart and vascular disease, cancer, and diabetes.

> *Insidious propaganda is being constantly fed to us by people who profit by our failure to rigidly screen information as to its truth and soundness. Unless we are alert to the process, we accept many palpably fictitious statements as fact and allow ourselves to be swindled right and left, both as to our pocketbooks and as to our very life, health and existence.*

Inadequate?

As two cows were grazing near a highway, a huge tank truck of milk rumbled past with a sign, "Pasteurized, homogenized, standardized, vitamin D added," emblazoned on its side. One cow turned to the other and mooed: "Makes you feel sort of inadequate, doesn't it?"

—*West Community Bulletin*, quoted in *The Link*

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Selene River Press is a publishing company specializing in holistic nutrition education. Our philosophy is rooted in the work of Dr. Royal Lee, who showed that vitamin deficiencies, due to processed foods, are responsible for most degenerative disease. From organic farming to food-based vitamins, from raw milk to fermented foods, Dr. Lee set the course for the field of whole food nutrition.

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